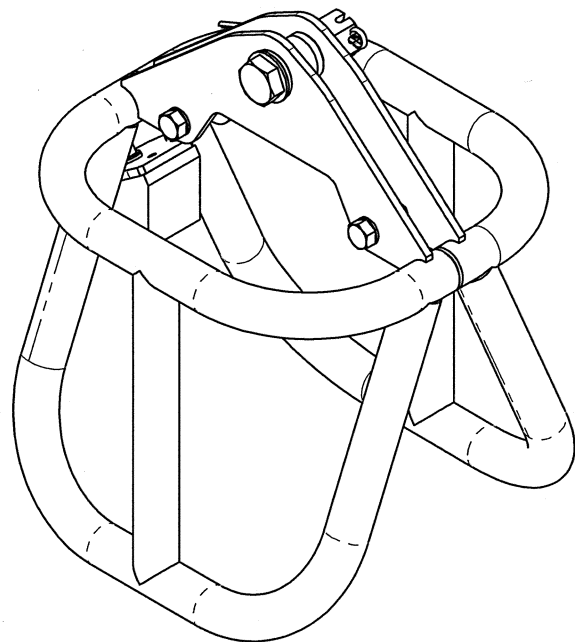
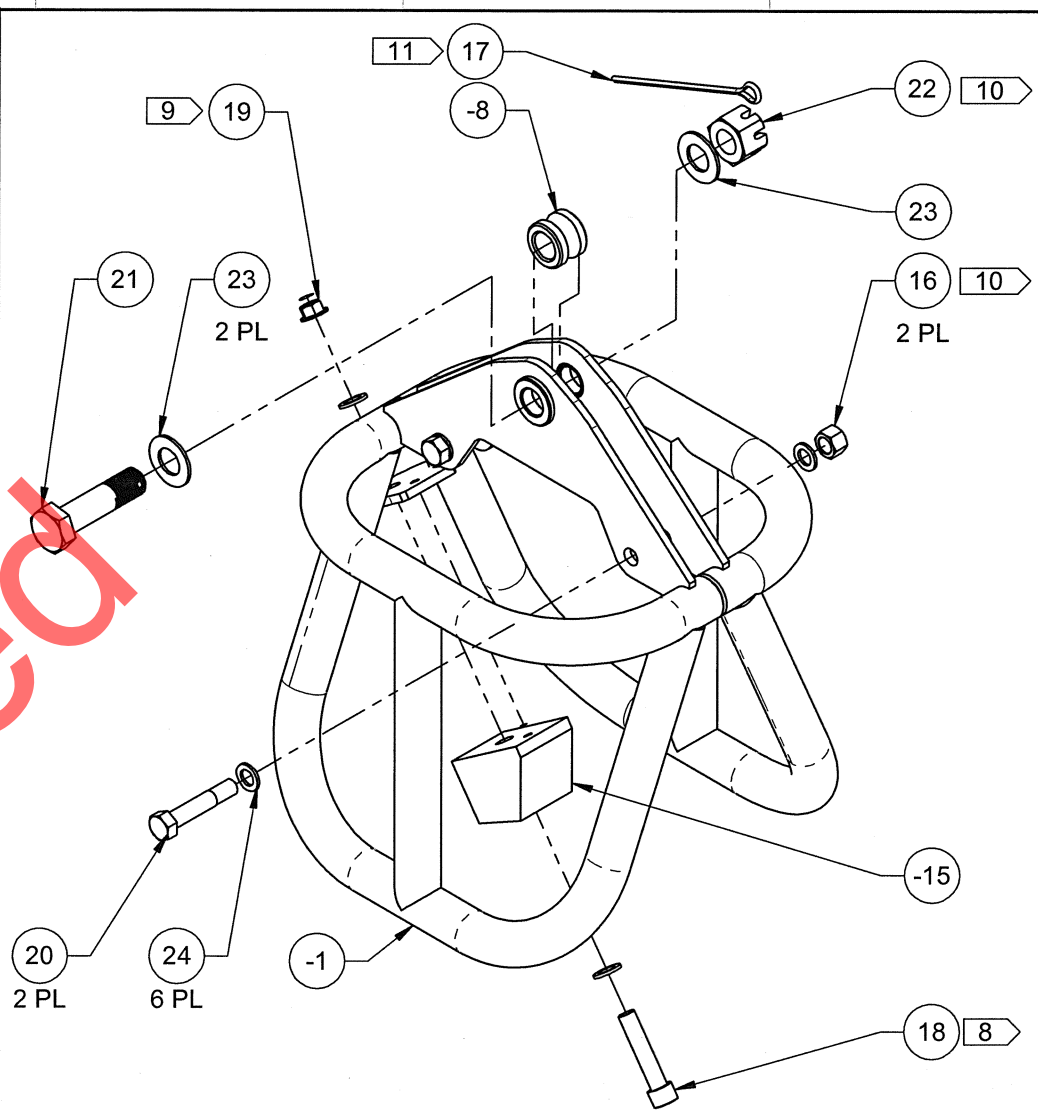
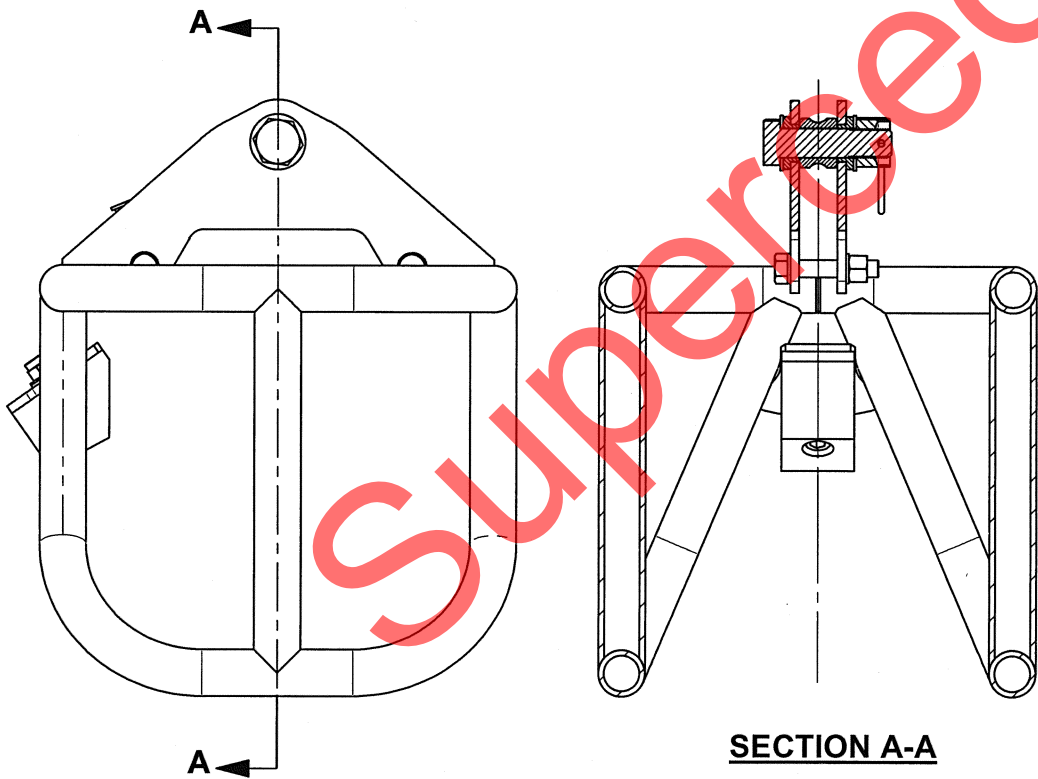


ITEM #	QTY	PART #	PART TITLE
-1	1	C3-C-1	WELDMENT C3 CAGE
-8	1	C3-C-8	LIFTING BUSHING
-15	1	C3-C-15	BUMPER ASSY
16	2	MS21044N6	CAD PLATED STEEL HEX LOCKNUT 3/8"-24
17	1	MS24665-355	CAD PLATED STEEL COTTER PIN 1/8" DIA. X 1 1/4" LG.
18	1	NAS1351-6-28	CAD PLATED STEEL SOCKET HEAD CAP SCREW 3/8"-24 X 1.75" LG.
19	1	MS21042-6	CAD PLATED STEEL HEX SELF-LOCKING NUT 3/8"-24
20	2	AN6-17A	CAD PLATE STEEL HEX BOLT 3/8"-24 X 1.953" LG.
21	1	AN10-22	CAD PLATE STEEL HEX HEAD 5/8"-18 X 2.391" LG.
22	1	AN310-10	CAD PLATE STEEL CASTLE NUT 5/8"-18
23	2	NAS1149F1032P	STEEL WASHER 0.640" ID. X 1.188 OD. X 0.065" THK.
24	6	NAS1149F0663P	CAD PLATED STEEL WASHER 0.390" ID. X 0.625" OD. X 0.063" THK.



C3-C C3 CAGE

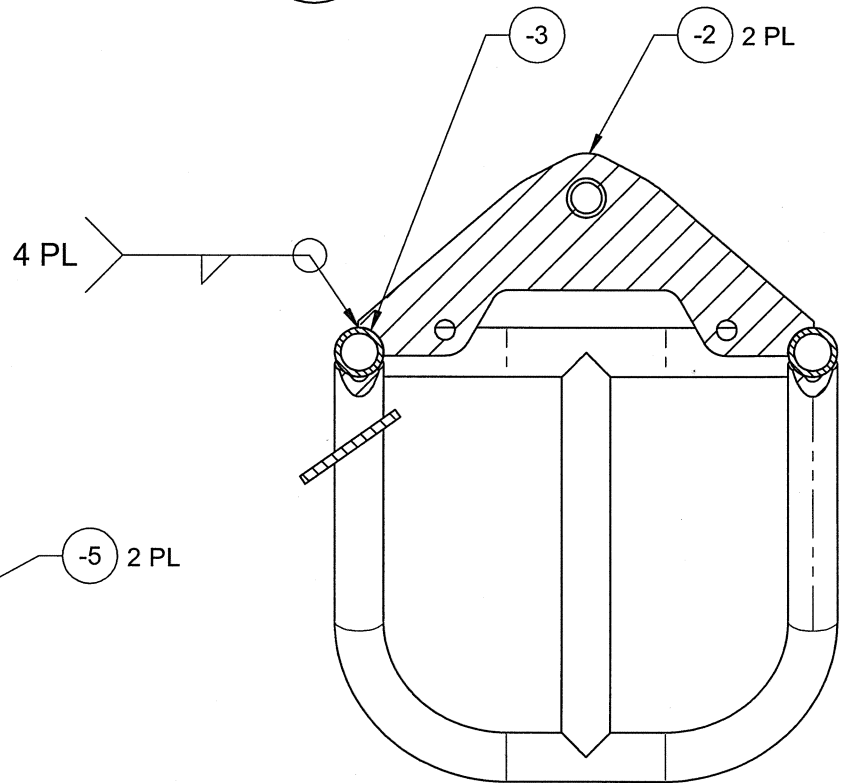
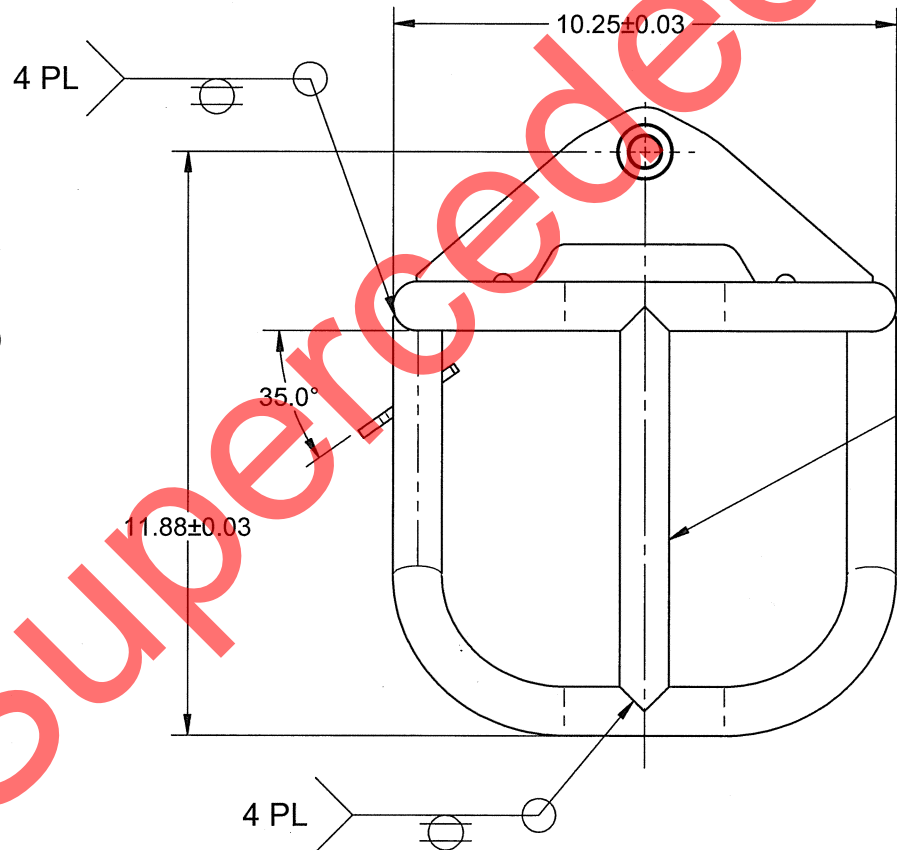
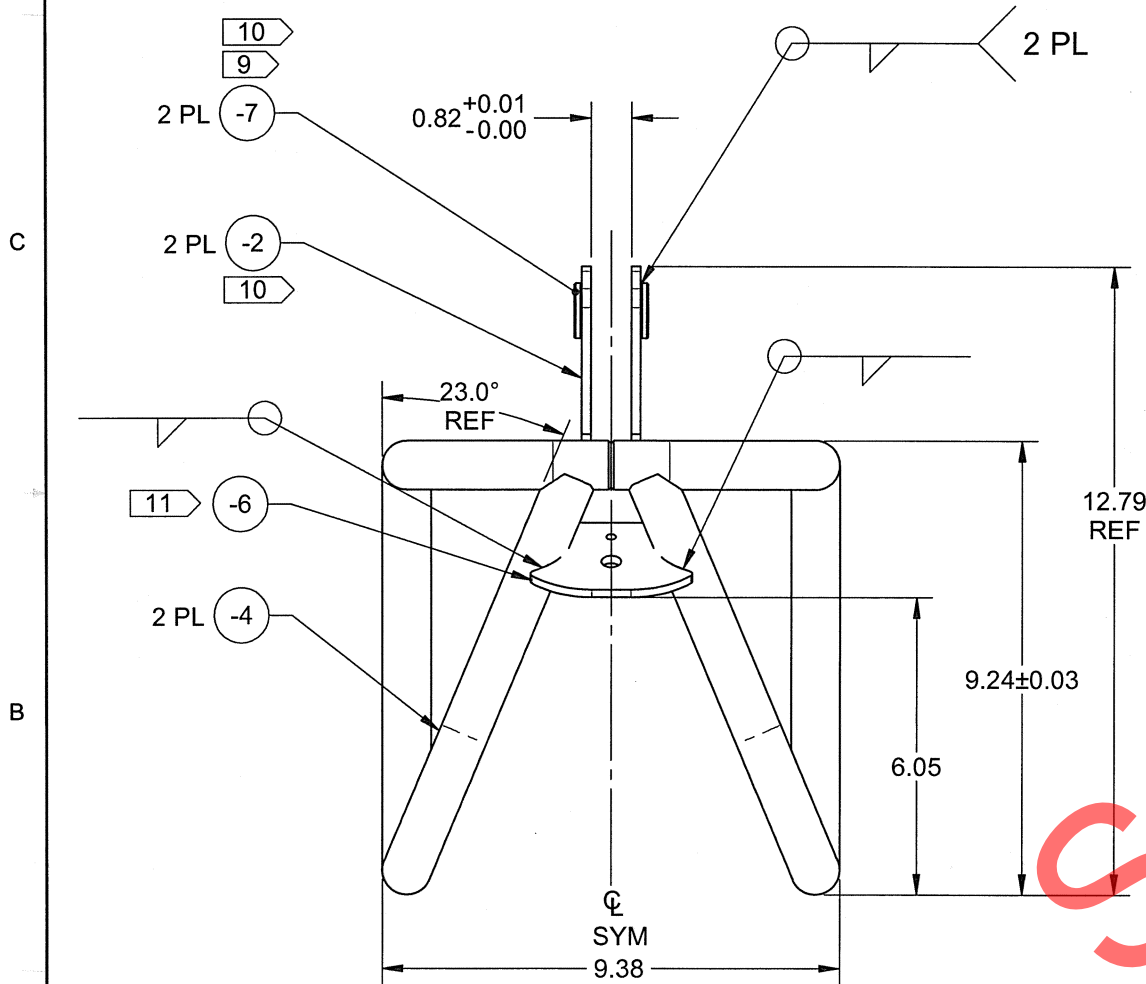
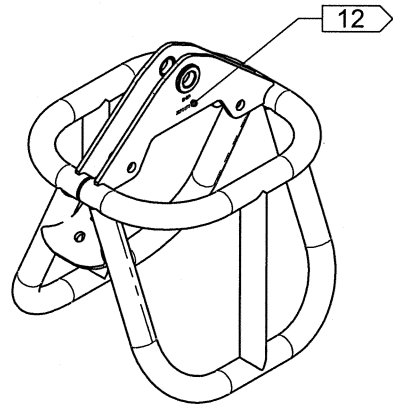
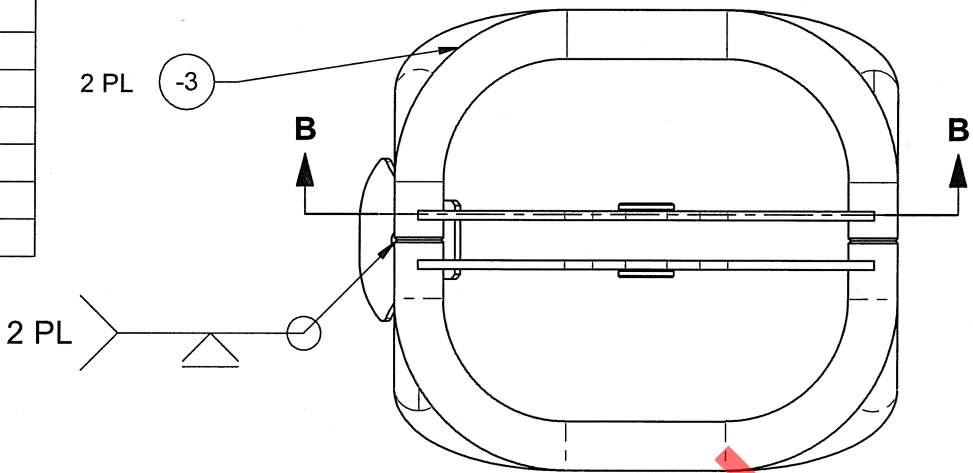


SECTION A-A

- NOTES:
- 1) MATERIAL: N/A
 - 2) HEAT TREAT: N/A
 - 3) FINISH: N/A
 - 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
 - 5) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 6) IDENTIFICATION: N/A
 - 7) ASSEMBLE AS SHOWN
 - 8) APPLY RED THREADLOCKER LOCTITE 263/262 ON THREADS OF ITEM 18 THEN ASSEMBLE WITH ITEM 19, AND REMOVE EXCESS
 - 9) TORQUE ITEM 19 TO 20-28 FT-LBS
 - 10) INSTALL ITEM 16 AND ITEM 22 HAND TIGHT
 - 11) DO NOT FOLD COTTER PIN

FOR PREVIOUS REV's SEE OLD PDFs ITEM -15 ASSY ADDED ITEM -10 McMaster#97135A235 CHANGED FOR ITEM 16 MS21044-N6 ITEM -11 McMaster#90157A112 CHANGED FOR ITEM 17 MS24665-335 ITEM -12 McMaster#92562A358 CHANGED FOR ITEM 18 NAS1351-6-28P ITEM -13 McMaster#98023A031 CHANGED FOR ITEM ITEM 24 NAS1149F0663P ITEM -14 McMaster#97135A230 CHANGED FOR ITEM 19 MS21042-6 ITEM 15 BECOME ITEM 20 ITEM 16 BECOME ITEM 21 ITEM 17 BECOME ITEM 22 ITEM 18 BECOME ITEM 23 ITEM 19 BECOME ITEM 24 ITEM 20 McMaster#98380A504 CHANGED FOR ITEM 25 MS16555-640 ITEM -2 DIMENSION R0.44 2 PL CHANGED FOR R0.50 2 PL ITEM -9 DIMENSION Ø0.1875/0.1867 CHANGED FOR Ø0.1872/0.1867, DIMENSION ∇0.542 CHANGED FOR 0.62, DIMENSION 0.19 CHANGED FOR 0.50		19-814	VM
REV.	DESCRIPTION	ECN #	BY
DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA TOOL PART # C3-C TITLE C3 CAGE REV. J SHEET 1 OF 11 SCALE NTS	
DRAWN	VM		
CHECKED	KPT		
MFG. APPR.	JFC		
APPROVED			
DATE 2019-07-19		COPYRIGHT © 2019 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

ITEM #	QTY	PART #	PART TITLE
-2	2	C3-C-2	LIFTING PLATE
-3	2	C3-C-3	TOP SEMI-RING
-4	2	C3-C-4	SIDE LOOP C3 CAGE
-5	2	C3-C-5	STIFFENER BAR
-6	1	C3-C-6	BUMPER BRACKET
-7	2	C3-C-7	BOSS

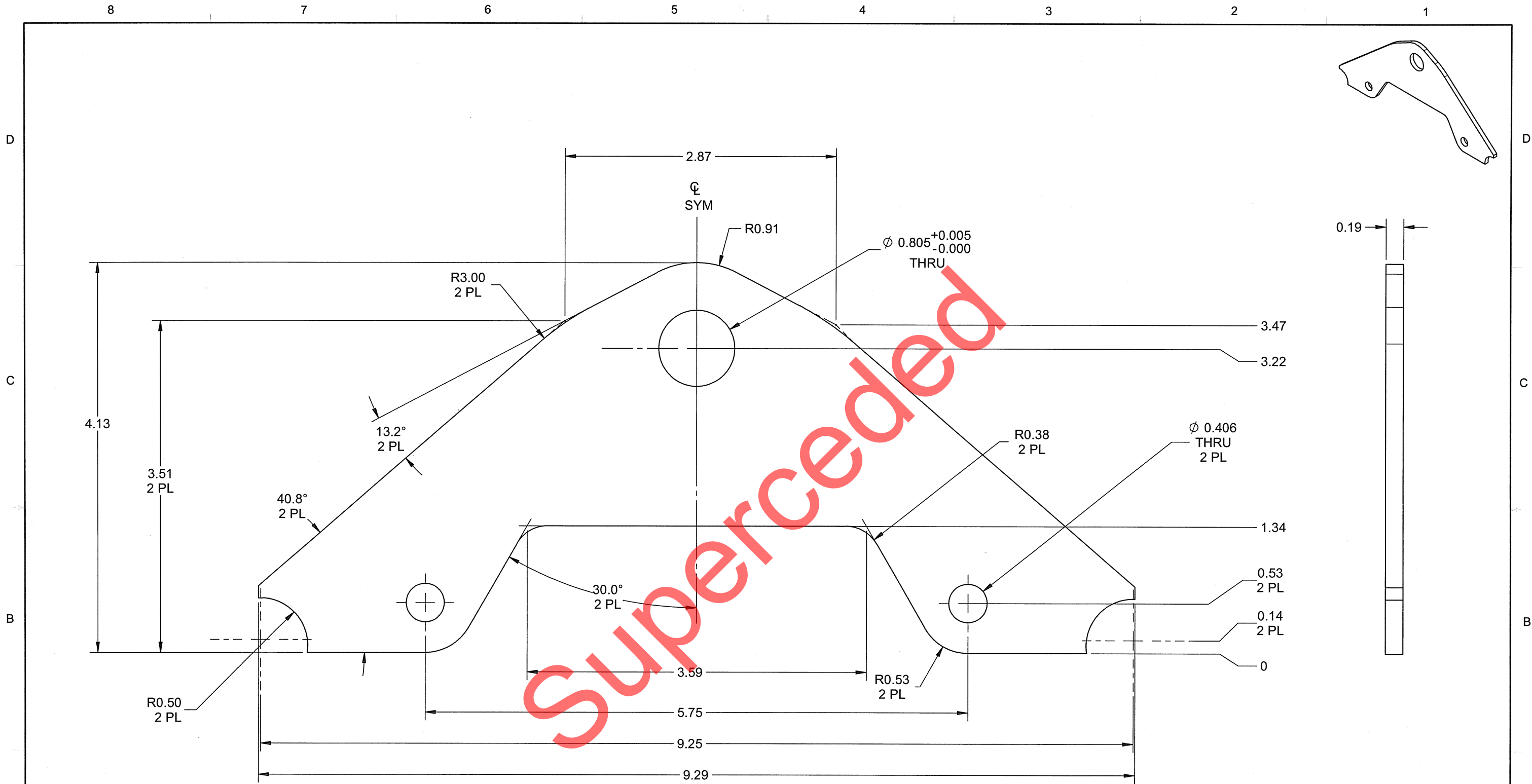


SECTION B-B

C3-C-1 WELDMENT C3 CAGE

- NOTES:
- 1) MATERIAL: N/A
 - 2) HEAT TREAT: N/A
 - 3) FINISH: POWDERCOAT RED QSI 005 OR MIL-PRF-24712
 - 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/-0.005"
 - 5) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 6) IDENTIFICATION: N/A
 - 7) ASSEMBLE AS SHOWN
 - 8) REMOVE ALL SHARP EDGES, BURRS, AND WELD SPATTERS
 - 9) USE WELD FIXTURE C-3, FILLET AROUND ALL PART CONNECTIONS 100%
 - 10) HOLES OF BOTH SETS OF -2 AND -7 MUST ALIGN.
 - 11) TRIM ITEM-6 BUMPER BRACKET AS REQUIRED TO MATCH TUBES PROFILE FOR WELDING.
 - 12) INK STAMP T/N AND S/N PER QSI 044 AFTER POWDER COAT

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	KPT	TOOL PART #	REV. J
MFG. APPR.	JFC	C3-C	SHEET 2 OF 11
APPROVED		TITLE	SCALE
		C3 CAGE	NTS
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NOTES:

1) MATERIAL: 1018/1020/1025 CR

2) HEAT TREAT: N/A

3) FINISH: N/A

4) TOLERANCES: X.X = $\pm 0.1"$ / $\pm 1^\circ$
X.XX = $\pm 0.01"$ / $\pm 0.5^\circ$
X.XXX = $\pm 0.005"$ / $\pm 0.1^\circ$
X.XXXX = $\pm 0.0005"$ / $\pm 0.05^\circ$
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = $\pm 0.005"$

5) UNITS: INCHES UNLESS OTHERWISE NOTED

6) REMOVE ALL SHARP EDGES AND BURRS

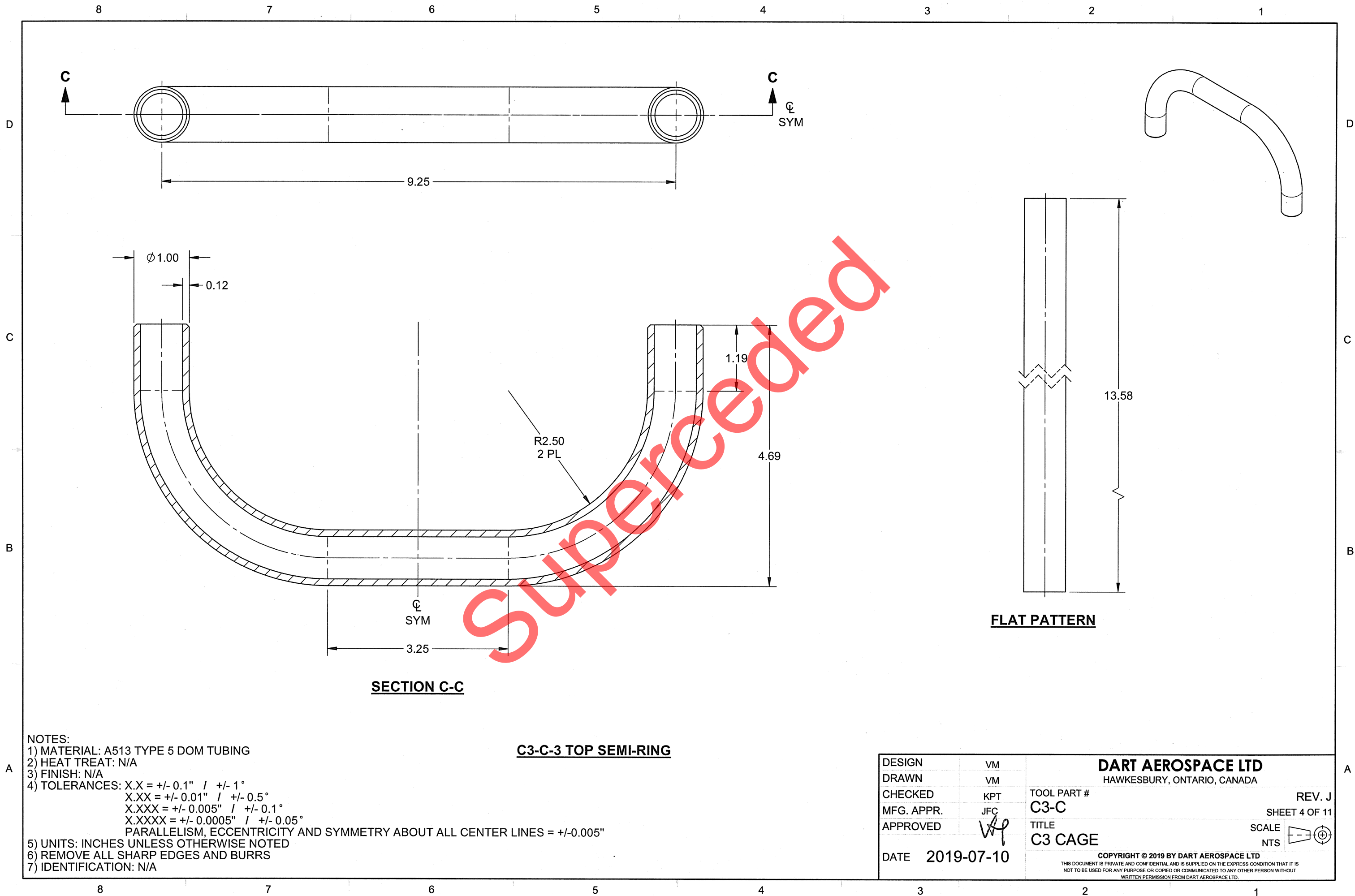
7) IDENTIFICATION: N/A

8) ALL NON-DIMENSIONED FEATURES MUST MAINTAIN A TOLERANCE OF $\pm 0.01"$ PER CAD FILE C3-C-2 REV. J.STEP

C3-C-2 LIFTING PLATE

8

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	KPT	TOOL PART #	REV. J
MFG. APPR.	JFC	C3-C	SHEET 3 OF 11
APPROVED	Wp	TITLE	SCALE
		C3 CAGE	NTS
DATE	2019-07-10	COPYRIGHT © 2019 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



8 7 6 5 4 3 2 1

D

C

B

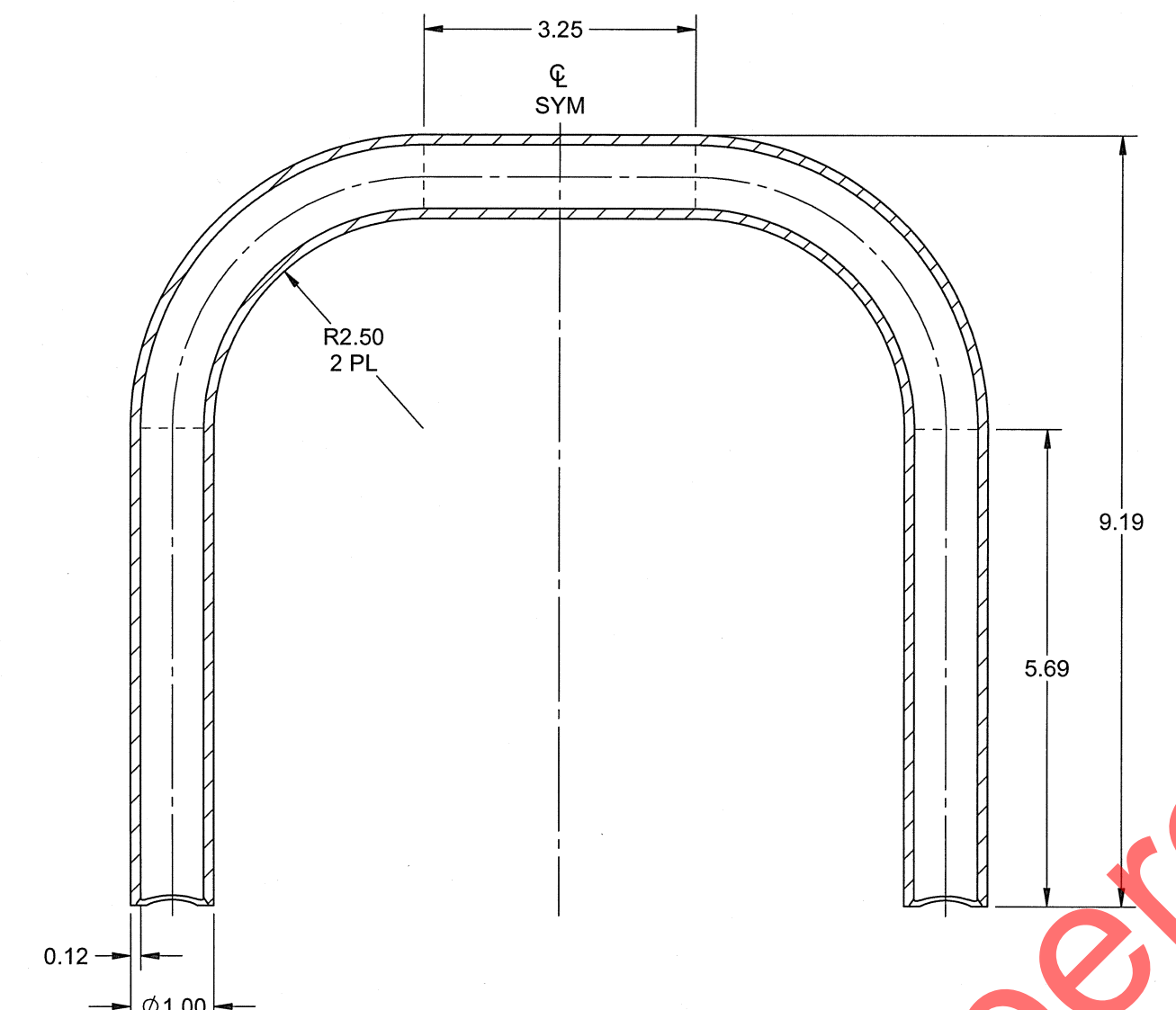
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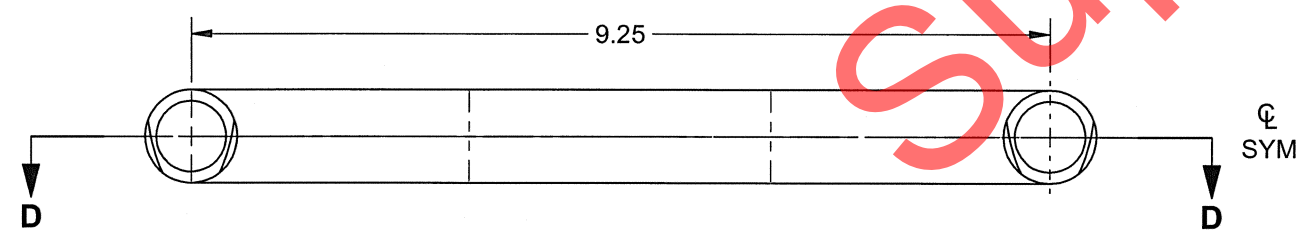
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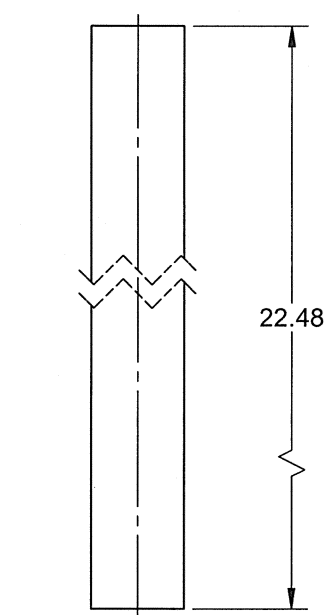
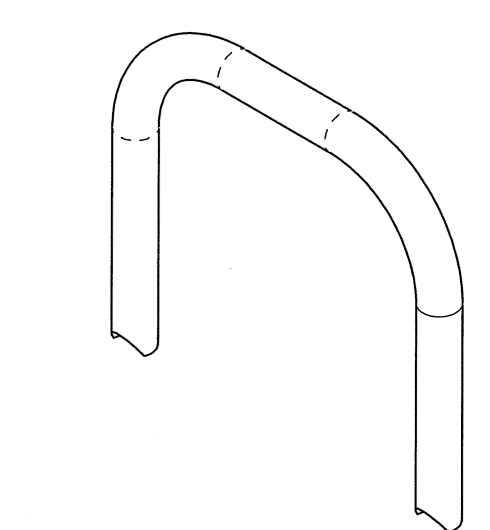
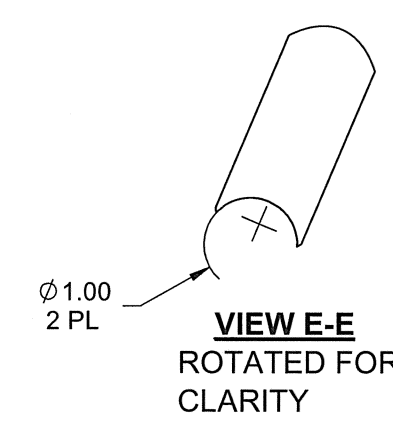
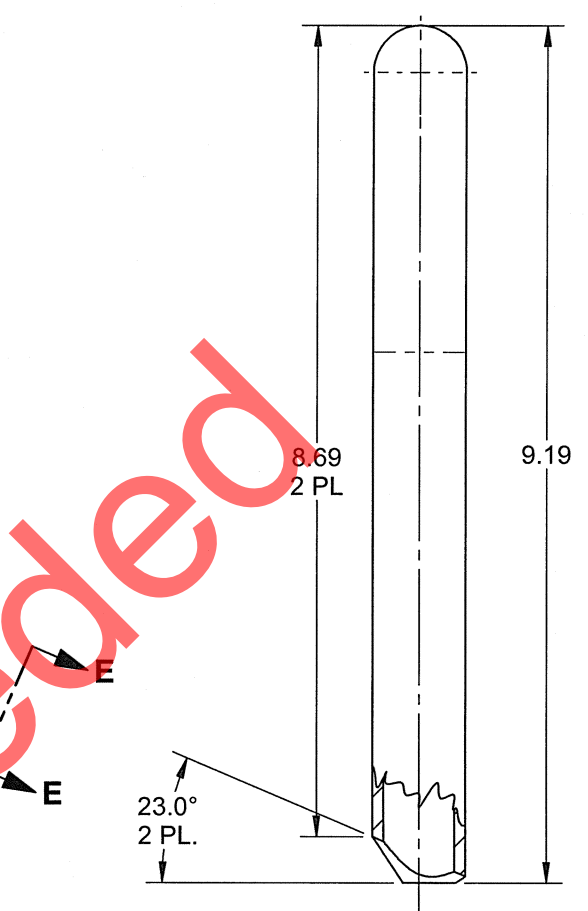
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
SECTION D-D



C3-C-4 SIDE LOOP C3 CAGE



- NOTES:
- 1) MATERIAL: A513 TYPE 5 DOM TUBING
 - 2) HEAT TREAT: N/A
 - 3) FINISH: N/A
 - 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
 - 5) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 6) REMOVE ALL SHARP EDGES AND BURRS
 - 7) IDENTIFICATION: N/A

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	KPT	TOOL PART #	REV. J
MFG. APPR.	JFC	C3-C	SHEET 5 OF 11
APPROVED		TITLE	SCALE
		C3 CAGE	NTS 
DATE	2019-07-10	COPYRIGHT © 2019 BY DART AEROSPACE LTD	
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8

7

6

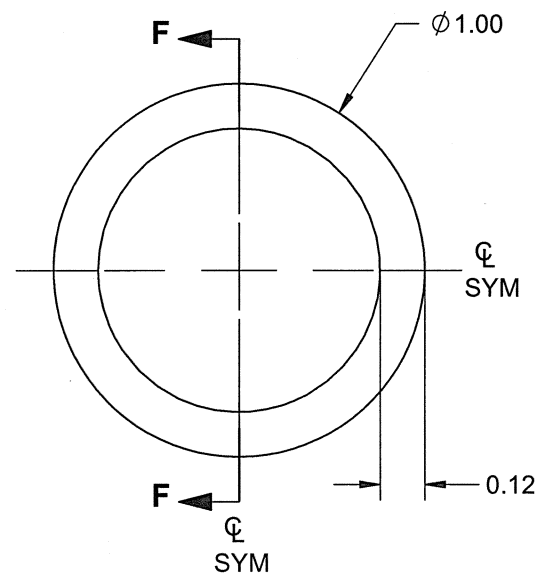
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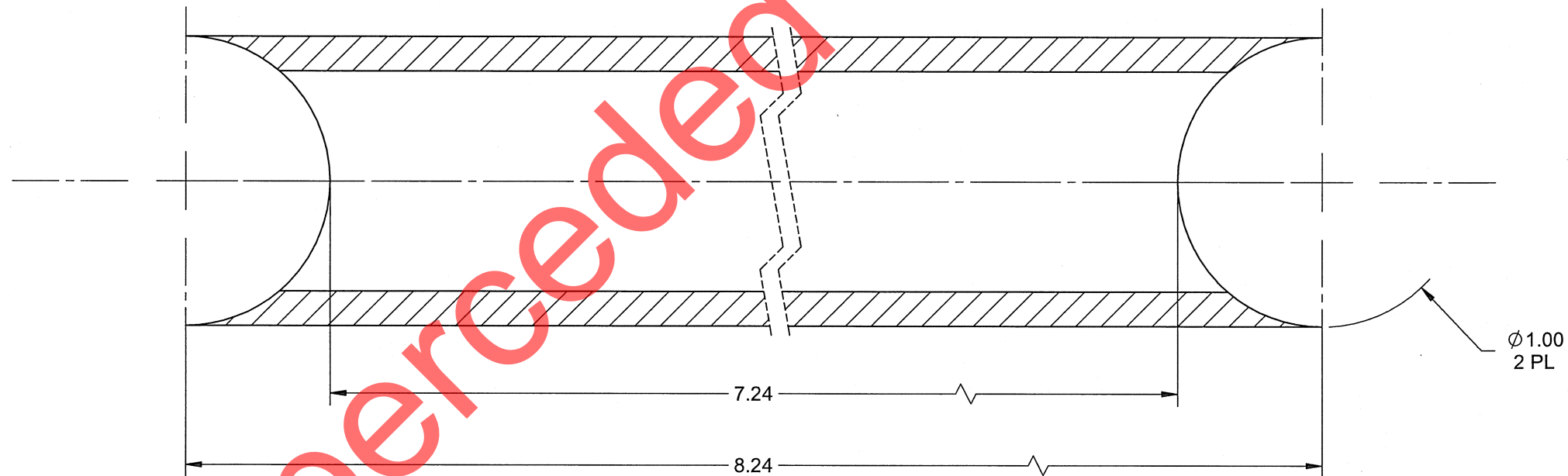
3

2

1



C3-C-5 STIFFENER BAR

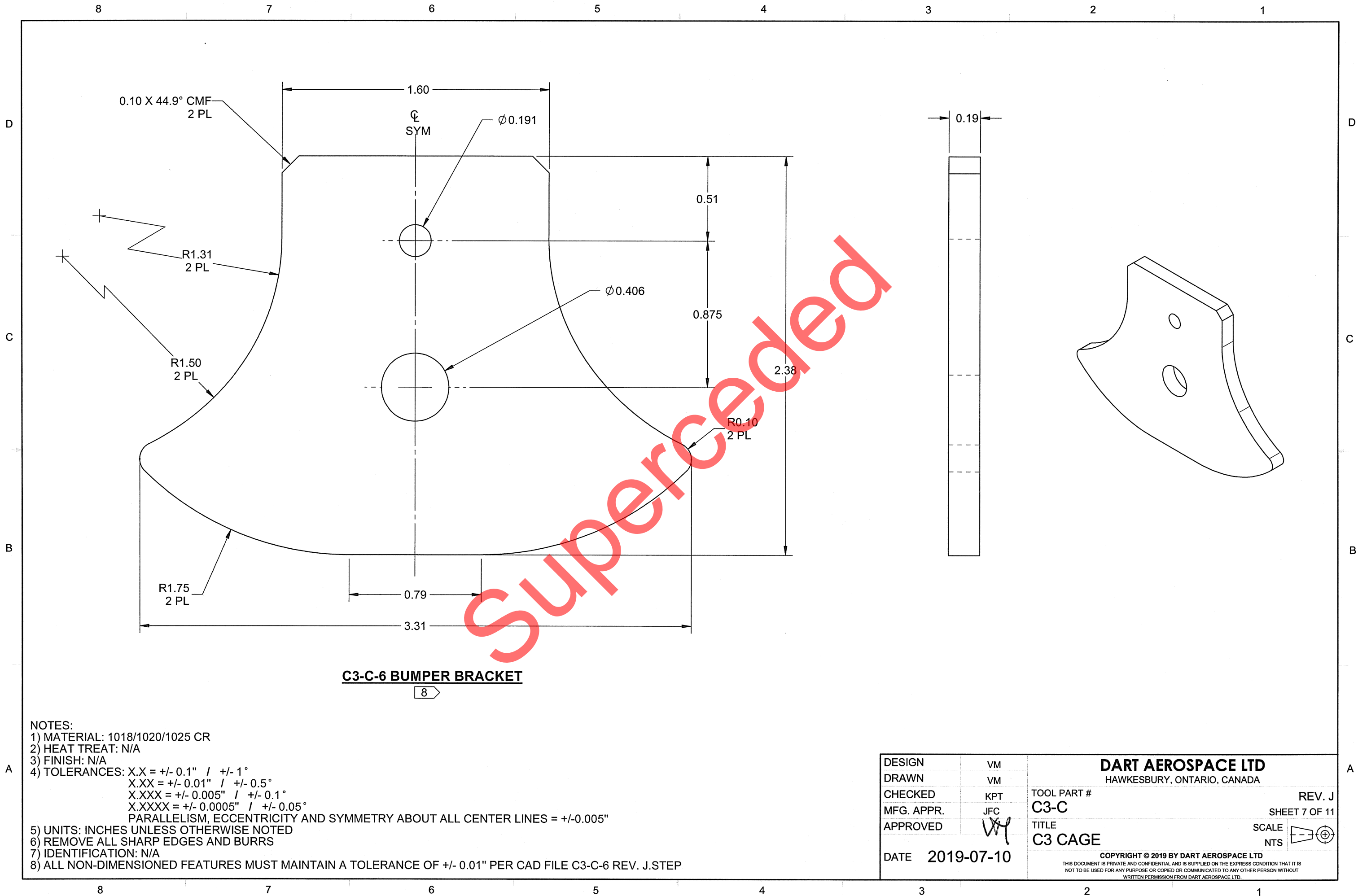


SECTION F-F

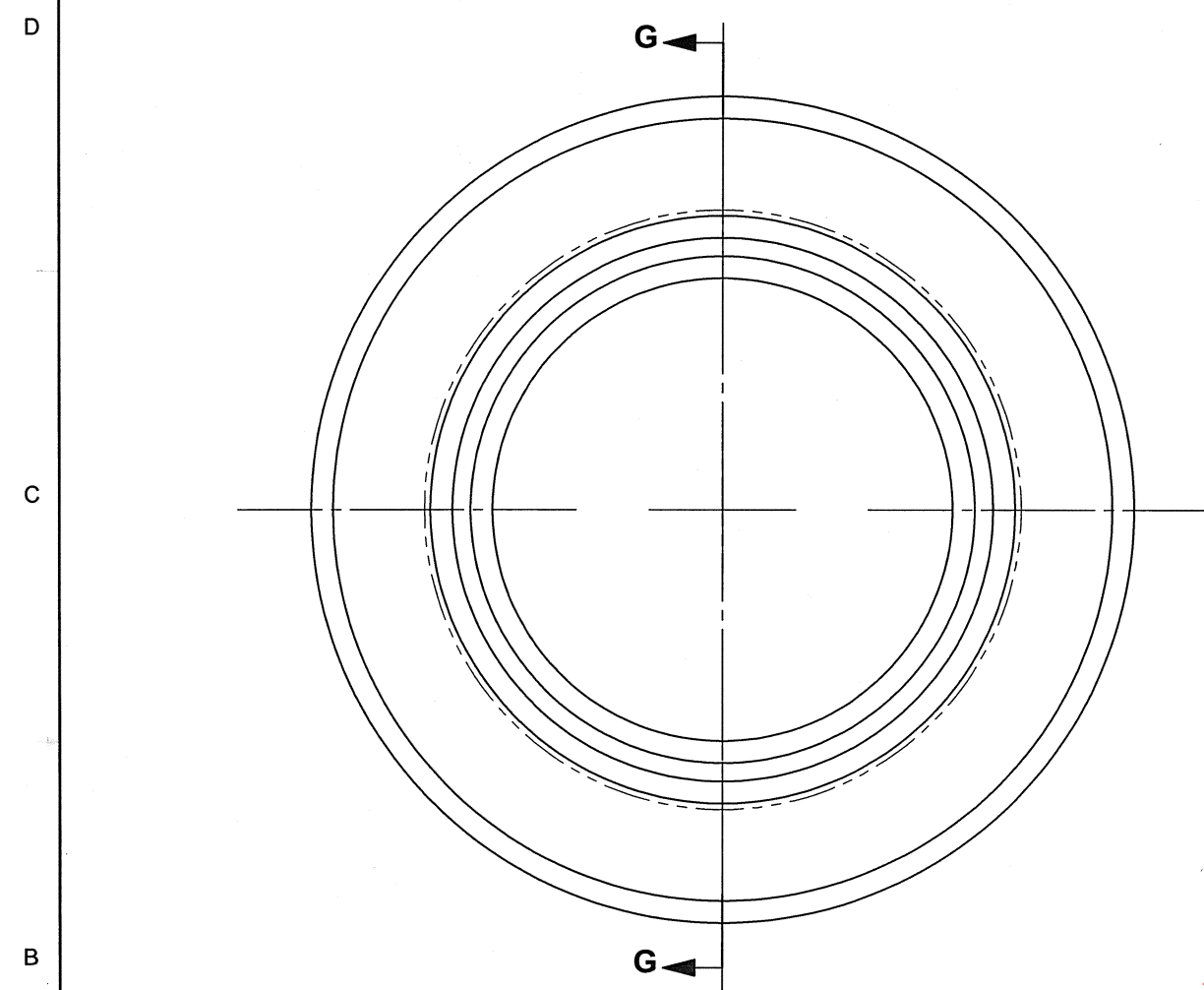
NOTES:

- 1) MATERIAL: A513 TYPE 5 DOM TUBING
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: N/A

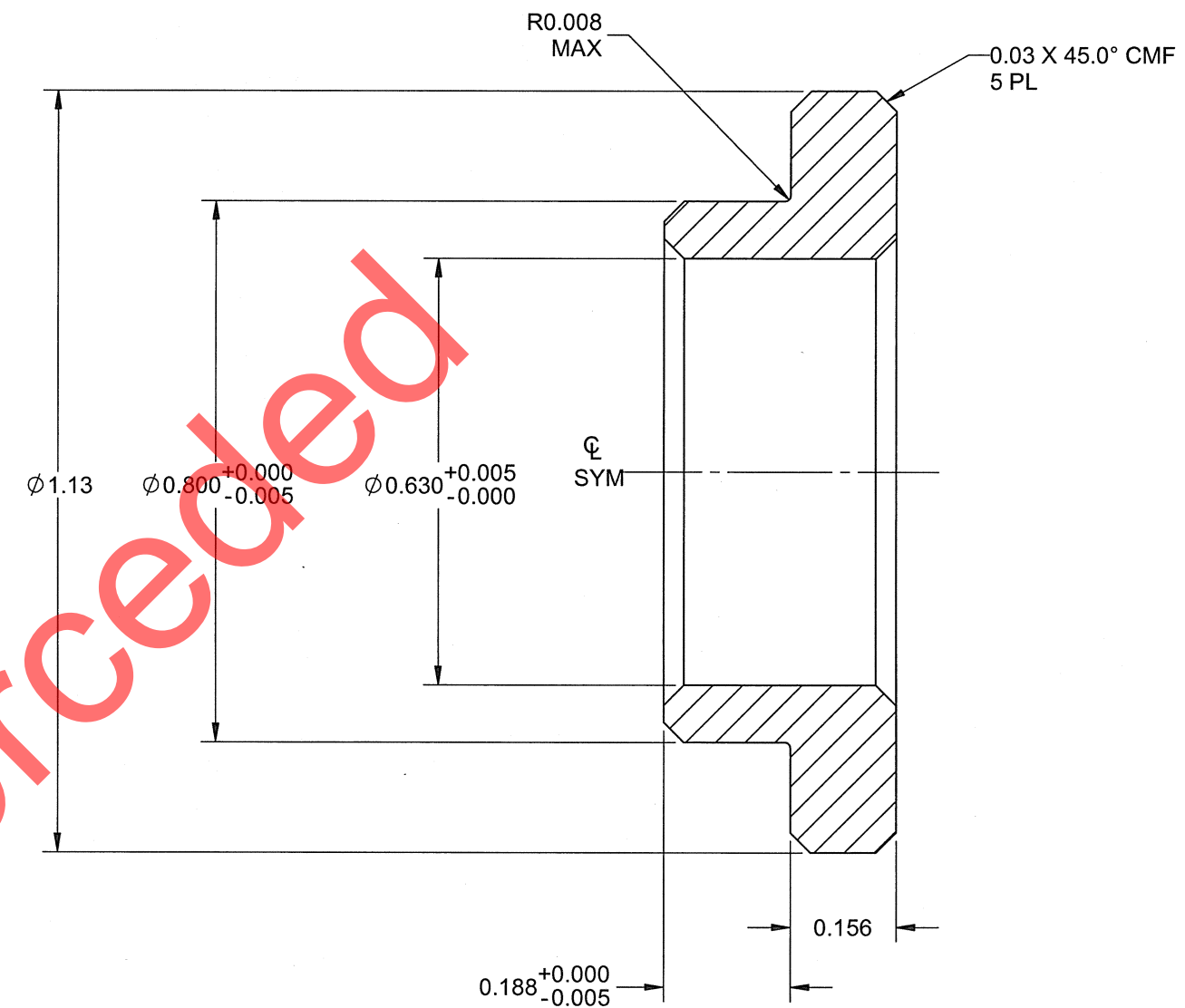
DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	KPT	TOOL PART #	REV. J
MFG. APPR.	JFC	C3-C	SHEET 6 OF 11
APPROVED		TITLE	SCALE
		C3 CAGE	NTS
DATE	2019-07-10	COPYRIGHT © 2019 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



8 7 6 5 4 3 2 1



C3-C-7 BOSS



SECTION G-G

- NOTES:
- 1) MATERIAL: 1018/1020/1025 CR
 - 2) HEAT TREAT: N/A
 - 3) FINISH: N/A
 - 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
 - 5) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 6) REMOVE ALL SHARP EDGES AND BURRS
 - 7) IDENTIFICATION: N/A

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	KPT	TOOL PART #	REV. J
MFG. APPR.	JFC	C3-C	SHEET 8 OF 11
APPROVED		TITLE	SCALE
		C3 CAGE	NTS
DATE	2019-07-10	COPYRIGHT © 2019 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

8 7 6 5 4 3 2 1

D

C

B

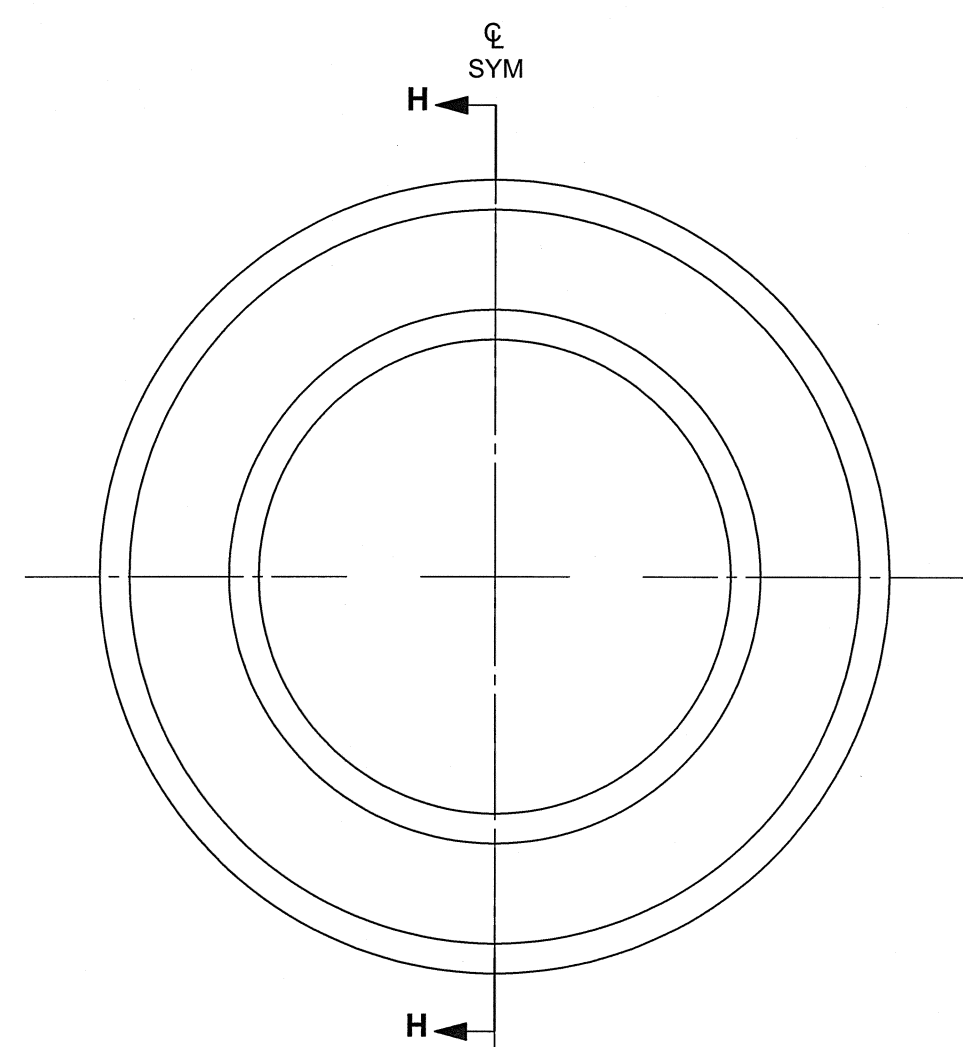
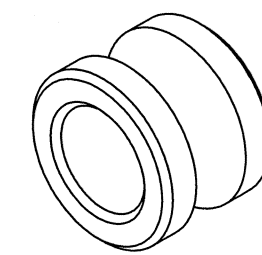
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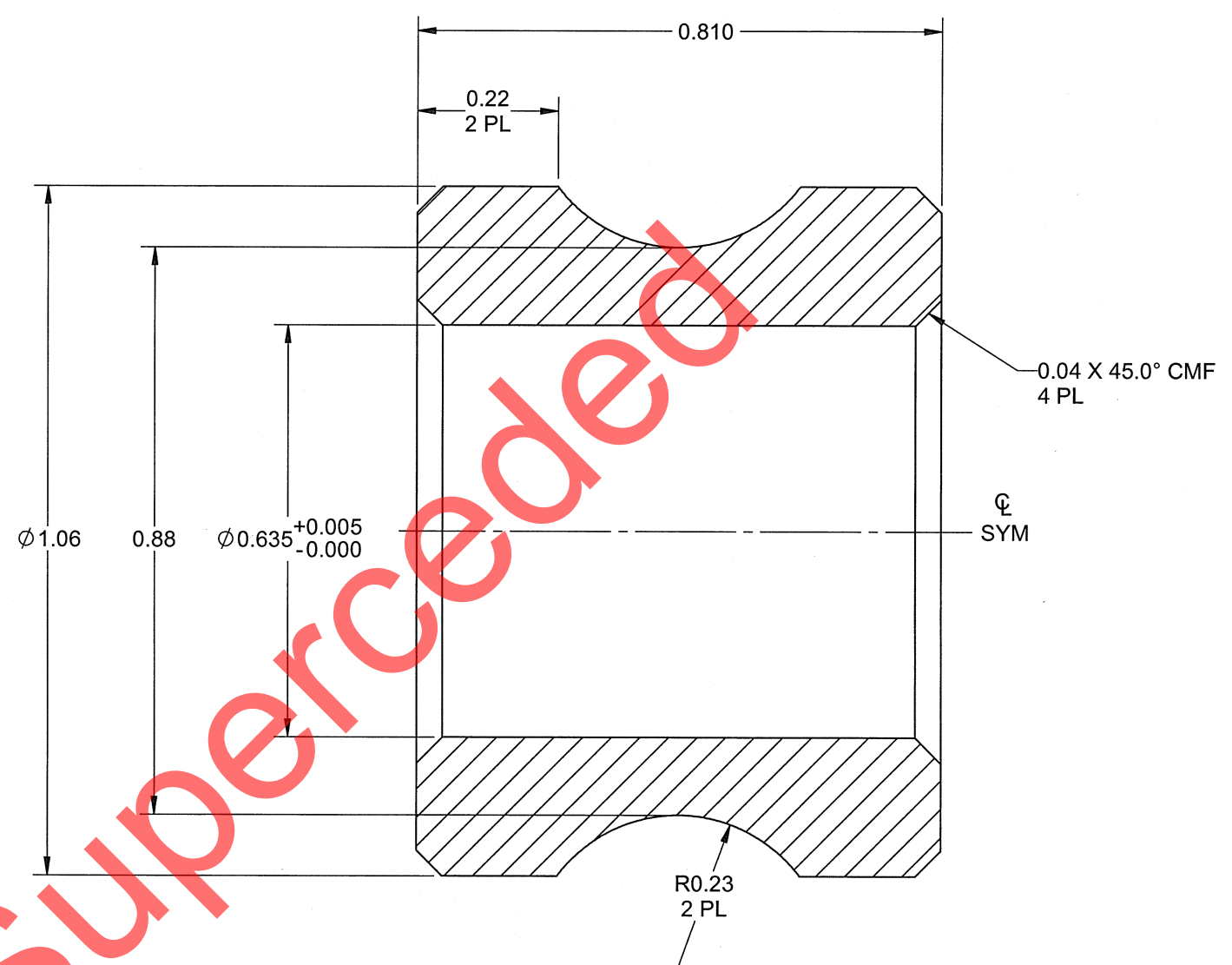
C

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A



C3-C-8 LIFTING BUSHING

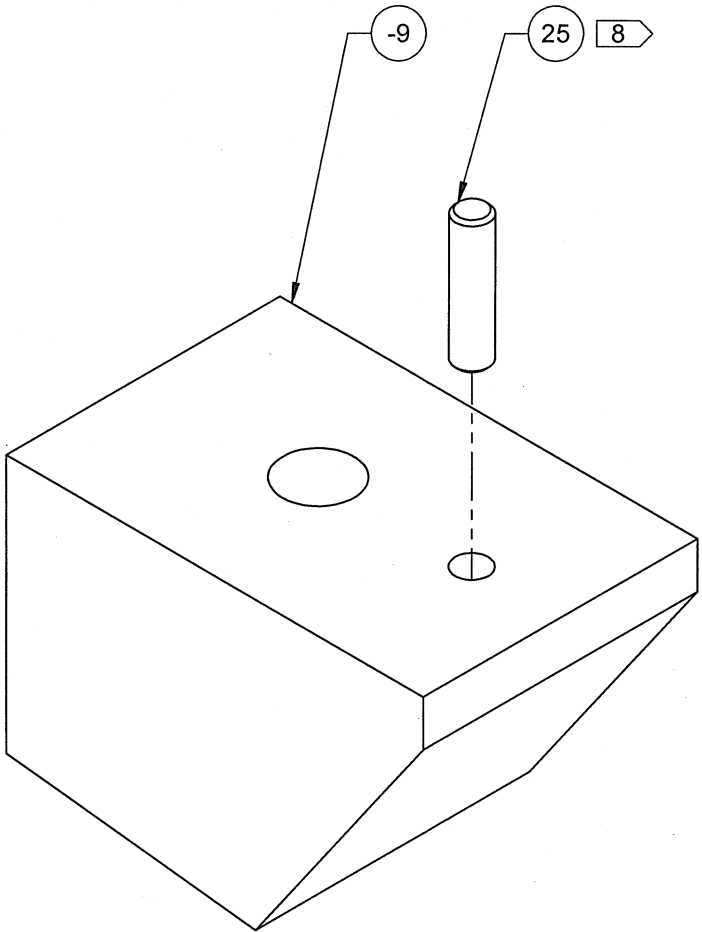


SECTION H-H

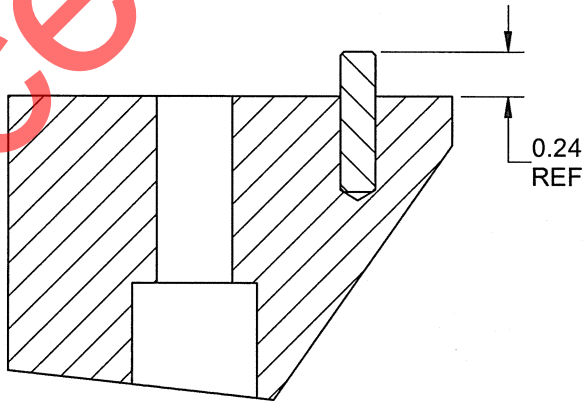
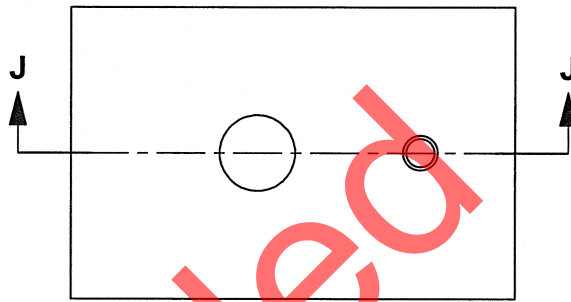
- NOTES:
- 1) MATERIAL: 4140 (28-32 RC)
 - 2) HEAT TREAT: N/A
 - 3) FINISH: NICKEL PLATE PER MIL-C-26074 CLASS 2 GRADE B OR QQ-N-290A CLASS 2 GRADE E
 - 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
 - 5) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 6) REMOVE ALL SHARP EDGES AND BURRS
 - 7) IDENTIFICATION: N/A

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	KPT	TOOL PART #	REV. J
MFG. APPR.	JFC	C3-C	SHEET 9 OF 11
APPROVED		TITLE	SCALE
		C3 CAGE	NTS
DATE	2019-07-10	COPYRIGHT © 2019 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

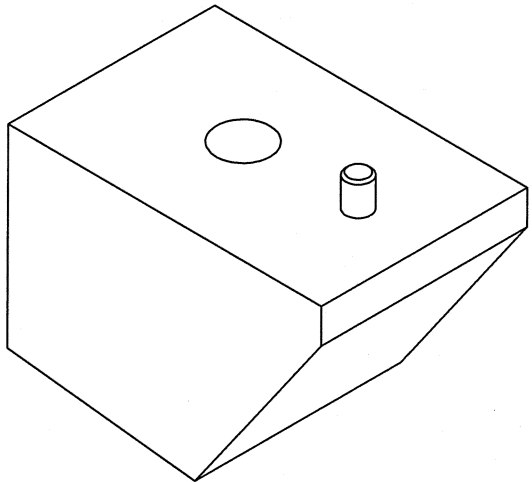
ITEM #	QTY	PART #	PART TITLE
-9	1	C3-C-9	BUMPER
25	1	MS16555-640	SS416 DOWEL PIN 3/16" DIA. X 3/4" LG.



C3-C-15 BUMPER ASSY

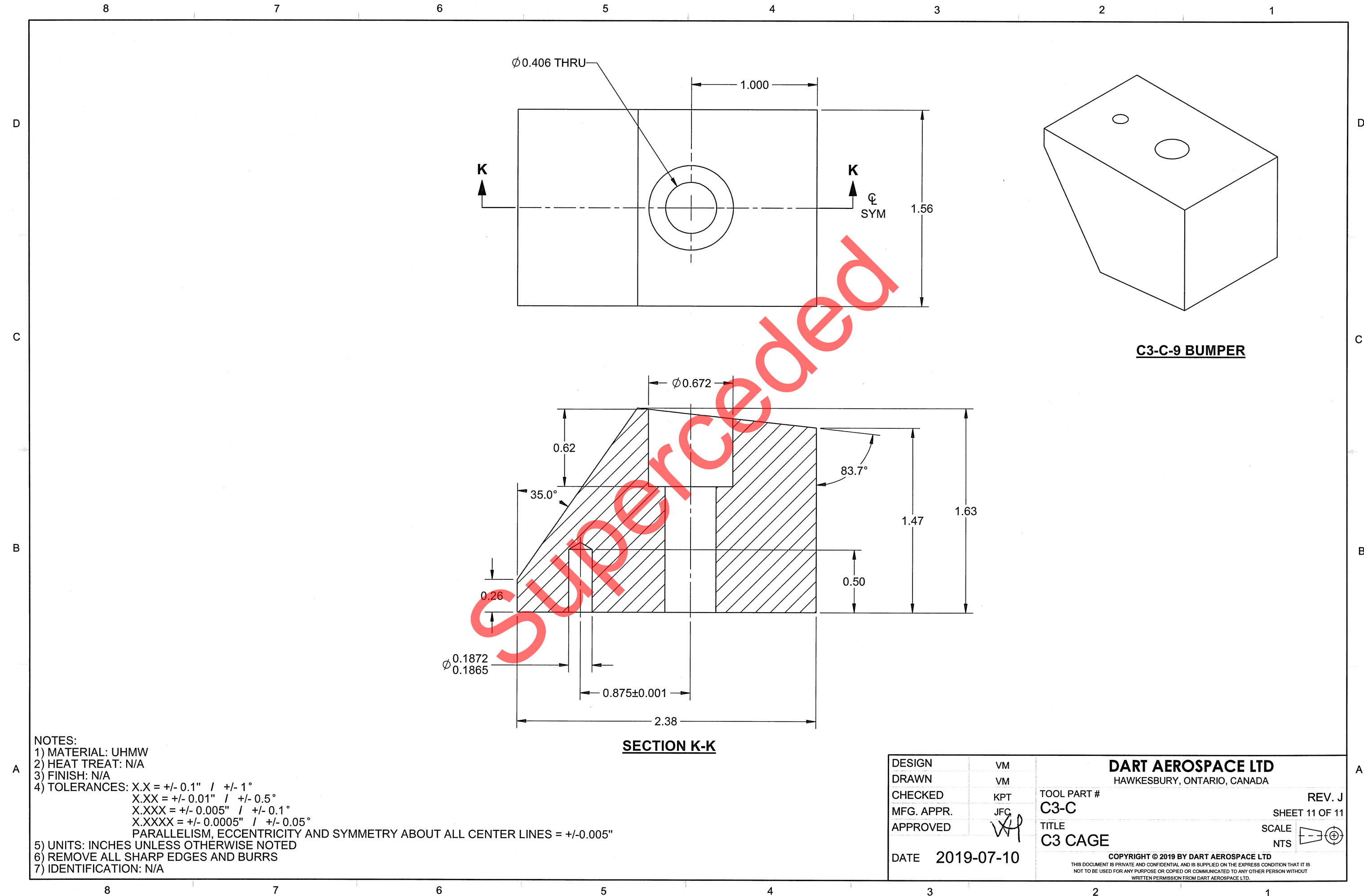


SECTION J-J



- NOTES:
- 1) MATERIAL: N/A
 - 2) HEAT TREAT: N/A
 - 3) FINISH: N/A
 - 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/-0.005"
 - 5) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 6) IDENTIFICATION: N/A
 - 7) ASSEMBLE AS SHOWN
 - 8) APPLY RETAINING COMPOUND LOCTITE 620 OR EQUIVALENT ON MATING SURFACES
THEN PRESS FIT ITEM 25 WITH ITEM -9, AND REMOVE EXCESS

DESIGN	VM	DART AEROSPACE LTD	
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA	
CHECKED	KPT	TOOL PART #	REV. J
MFG. APPR.	JFC	C3-C	SHEET 10 OF 11
APPROVED		TITLE	SCALE
		C3 CAGE	NTS
DATE	2019-07-10	COPYRIGHT © 2019 BY DART AEROSPACE LTD	
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NOTES:
1) MATERIAL: UHMW
2) HEAT TREAT: N/A
3) FINISH: N/A
4) TOLERANCES: X.X = ± 0.1 " / $\pm 1^\circ$
X.XX = ± 0.01 " / $\pm 0.5^\circ$
X.XXX = ± 0.005 " / $\pm 0.1^\circ$
X.XXXX = ± 0.0005 " / $\pm 0.05^\circ$
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = ± 0.005 "
5) UNITS: INCHES UNLESS OTHERWISE NOTED
6) REMOVE ALL SHARP EDGES AND BURRS
7) IDENTIFICATION: N/A

SECTION K-K

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	KPT	TOOL PART #	REV. J
MFG. APPR.	JFC	C3-C	SHEET 11 OF 11
APPROVED	<i>[Signature]</i>	TITLE	SCALE
		C3 CAGE	NTS
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